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OCT 23 2006

IN THE CLAIMS

1. (currently amended) In a method for producing a silicon-on-insulator structure including hydrogen implantation in a silicon wafer, chemical treatment of the silicon wafer and a substrate, joining of the silicon wafer and substrate, splicing and splitting of the wafer along a layer of the implanted layer hydrogen, characterized in that the improvements wherein:

~~a~~ at least drying; and removing of the of physically adsorbed substances from the surfaces of the wafers and substrate after the chemical treatment is carried out in the a first low vacuum conditions at the a first moderate temperatures at which such that the implanted hydrogen is stayings in the in the bound state; and

the joining and splicing of the wafer and substrate, their splicing and exfoliating hydrogen-induced transferring along the implanted layer in the wafer in the same of implanted hydrogen is carried out at a second low vacuum conditions at and a second moderate temperature the same as or slightly higher than the first moderate temperatures at which such that the implanted hydrogen is mostly stayings mostly in the bound state.

2. (currently amended) The method according to claim 1, characterized in that the hydrogen implantation is carried out through thermally grown oxide SiO_2 with the a thickness of 5 to 50 nm and following it is removed after implantation.

3. (currently amended) The method according to claim 1, characterized in that the hydrogen implantation is carried out with H_2^+ or H^+ ions with doses from $(1.5 \text{ to } 15) \times 10^{16} \text{ cm}^{-2}$ and energies 20 to 200 keV, respectively.

4. (currently amended) The method according to claim 1, characterized in that a thermal annealing is carried out at 1100°C during 0.5 to 1 hour after the splitting.
5. (currently amended) The method according to claim 1, ~~characterized in that~~ further comprising a touch chemical-mechanical polishing (CMP) or thermal oxidation with following chemical etching in with diluted hydrofluoric acid ~~are carried out~~ for removing of an upper rough layer ~~on the surface of~~ after the ~~exfoliating~~ silicon film.
6. (currently amended) The method according to claim 1, characterized in that ~~the~~ a thickness of thermally grown oxide SiO₂ ~~with on~~ the substrate is ~~equal to~~ 0.01 to 3 µm.
7. (currently amended) The method according to claim 1, characterized in that the substrate is a glass wafer ~~with the~~ a thickness about 500 µm.
8. (currently amended) The method according to claim 1, characterized in that the substrate is a quartz wafer ~~with a~~ thickness about 500 µm.
9. (currently amended) The method according to claim 1, ~~characterized in that the~~ drying, ~~removing of the of~~ physically adsorbed substances from the surfaces of the wafer and substrate, ~~joining the wafer and substrate, their splicing and exfoliating along the implanted~~ layer in the wafer at wherein at least one of the first and second temperatures is 80 to 350°C with duration from 0.1 to 100 hours ~~are carried out in and at least one of the first and second~~

low vacuum ~~is conditions~~ (101 to 104 Pa).

10. (new) The method according to claim 1, wherein at least one of the first low vacuum or temperature is the same as the second low vacuum or temperature.

11. (new) The method according to claim 9, wherein at least one of the first low vacuum or temperature is the same as the second low vacuum or temperature.